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Indian Standard

CODE OF PRACTICE FOR ESTABLISHING AND OPERATING QUALITY CIRCLES

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Indian Standard

CODE OF PRACTICE FOR ESTABLISHING AND OPERATING QUALITY CIRCLES

0. FOREWORD

0.1 This Indian Standard was adopted by the Bureau of Indian Standards on 18 February 1988, after the draft finalized by the Quality Control and Industrial Statistics Sectional Committee had been approved by the Executive Committee.

0.2 The concept and practice of Quality Circles have helped in creating motivative, productive and participative work groups which contribute towards improving overall performance of organizations. Quality Circle is a small group of people doing similar work, meeting voluntarily and regularly, to identify and analyze work-related quality and other problems, recommending/ implementing their solutions themselves. Quality Circles are led by a person chosen by circle members and are assisted by a facilitator who plays a key role in coordinating the Quality Circle activities. The Circle leaders and facilitators are given suitable training in problem identification, data gathering, sampling, decision analysis, human relations and presentation techniques. Quality Circles not only improve the quality of goods produced but also the working atmosphere because it developes people and makes the members feel that they are doing something worth-while apart from their routine job and they too are participating in the management of the company.

0.3 The theme of Quality Circles is now not limited to the improvement of quality only, but also has incorporated diverse themes, such as productivity, efficiency, cost reduction, design, safety and production control. Initially started in the manufacturing area, the concept is now making inroads into the field of non-manufacturing services as well, such as hospitals, banks, educational institutions, stores, administration, engineering, finance and training establishments. Looking to the advantages of this concept, the Quality Circles approach has now been adopted by several countries in the world.

0.4 The amazing success in quality and productivity through Quality Circles has generated a lot of interest in our country also. The Quality Circles have been operating in many of our industries for quite sometime. It was, therefore, felt by the committee that the Quality Circle manual may be prepared for ensuring uniformity of methodology and practices.

1. SCOPE

1.1 This standard provides the structure of the Quality Circles and also the guidelines for implementing them.

2. OBJECTIVES OF QUALITY CIRCLE ACTIVITIES

2.1 For Individuals

a) to give opportunity to employees to learn new techniques for recognition,

b) to give opportunity to employees to identify and solve the problem in their work area,

c) to improve job satisfaction,

d) to create problem-solving capability,

e) to build an attitude of problem-prevention,

f) to develop leadership,

g) to develop a greater safety awareness, and

h) to improve inter-person relationship.

2.2 For Organization

a) to improve quality and productivity of products,

b) to reduce wastages;

c) to improve employee motivation;

d) to inspire more effective team work;

e) to develop a healthy superior-subordinate relationship;

f) to improve communications within the organization;

g) to promote quality, safety, cost and work-consciousness; and

h) to develop a complete coherent problem solving methodology within the organization.

3. QUALITY CIRCLES OPERATION

3.1 Membership — Ideally, the members of a particular Circle come from the same work area or who perform similar work so that the problems they select are familiar to all of them and it is easy to find solutions with their experience and knowledge. Alternatively, a Circle may also be constituted with members from different connected work areas. In such case, they may look at the problem from all angles so that it is easy for them to arrive at optimum solutions. Whichever may be the formation of a Circle, the membership is strictly voluntary.

3.2 Strength of a Circle — An ideal size of a Circle is 5 to 10 members. The size must never be so large that each member does not get sufficient time to participate and contribute in the meeting.

3.3 Number of Circles in a Given Work Area — The number of Circles in a given work area may be more than one if the response for working in Quality Circles is more than 15, but any one person cannot be a member of more than one Circle. To avoid duplication of activities in the same work area, good co-ordination should be maintained between the leaders of these Circles and the facilitator.

3.4 Quality Circle Meetings — As a thumb rule, the meetings should take place once a week and each meeting should be for approximately one hour. It is preferable to conduct the meetings in a separate room in the same work area or very close to the work area. Circle meetings may be held during or after office/factory hours depending on the convenience and discretion of Circle members.

3.5 Working Process — The diagram given in the right-hand column graphically depicts the steps involved in the working process.

3.6 Nature of Problems — The following are a few examples of areas which can be tackled by QC members:

Production and Service	: Productivity improvement, quality improvement and reducing wastages.
Engineering	: Improvement in attending breakdown and preventive maintenance, reducing downtime for searching of tools, and updating drawings.
Materials	: Inventory control, development of vendors and codification.
Quality Assurance	: Sampling and testing methods, feed-back system, quality improvement studies, field trials, and improvement in inspection methods.
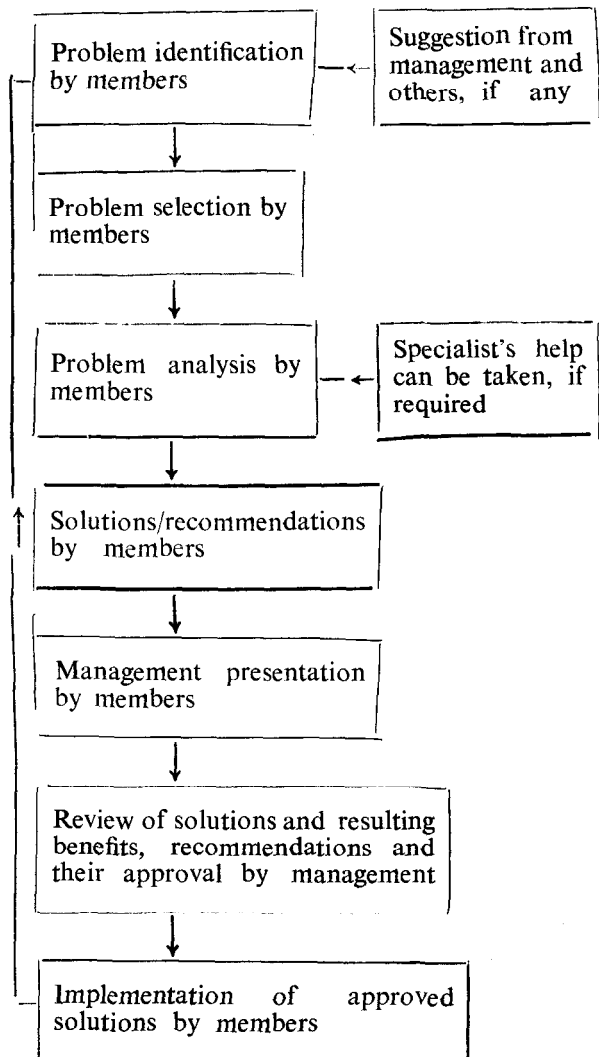
General	: Better customer service, systems development/improvement, communication improvement, conservation in printing and stationery items, control in usage of postal, telephone, transport systems, etc.
Work Environments	: Safety and house keeping.

4. STRUCTURE OF QUALITY CIRCLES

4.1 Basic Elements — The basic elements which constitute the structure of Quality Circles are as follows:

a) Top management,

b) Steering Committee,

c) Coordinator,

d) Facilitators,

e) Leaders,

f) Members, and

g) Non-members.

4.2 Top Management — The executives at the highest level who extend all the necessary support to the activities of the Quality Circles, and through their personal presence at the presentations and other major activities of Quality Circles make their support visible to all. The top management has an important role to play to ensure the success of implementation of the QC concept in the organization. They should be fully convinced and committed to Quality Circles.

4.2.1 *Functions*

a) demonstrate unequivocally its understanding and faith in the concept of Quality Circles,

b) make provision in the annual budget for meeting the expenditure of operation of Quality Circles,

c) encourage healthy growth through competition between Quality Circles by instituting an award to the division/department which performs best in propagation of Quality Cirlces as well as to the Quality Circles which make the best presentations at any centrally organized convention or conference,

d) give necessary guidance to employees at different levels for making the Quality Circle movement a self-sustained success,

e) include propagation of Quality Circles as one of the Corporate objectives,

f) attend management presentation of various Circles,

g) respond to the Circle recommendations in a positive way without any delays,

h) verify the implementation of Circle recommendations without any undue delays,

j) depute the members to outside seminars/ workshops, and

k) periodically review the QC activities on a regular basis.

4.3 Steering Committee

4.3.1 As soon as a decision is made to implement Quality Circles programme, the steering committee comprising the chief executive, divisional heads of departments and the coordinator is constituted. The chief executive and the coordinator act as chairman and secretary of the steering committee respectively. The meetings are convened at least once in two or three months.

4.3.2 *Functions*

a) promote Quality Circles in the Organization;

b) develop working methodology and give the guidelines relating to Quality Circle operations with respect to the facilities to be provided, for examples, place, date and time of conducting the meetings, type of rewards for motivation;

c) establish the programme objectives and resources;

d) provide policy guidelines and direction;

e) nominate coordinator and facilitators;

f) attend various presentations of the studies carried out by Quality Circles;

g) take decisions for implementation of recommendations of Quality Circles;

h) obtain feedback from facilitators and review Quality Circles activities;

j) provide necessary provisions in the annual budget;

k) grade the project reports of Quality Circles for awards; and

m) review the overall working of Quality Circles.

4.4 Coordinator — The coordinator coordinates the activities of Quality Circles throughout the organization and carries out such functions as would make the operation of Quality Circles smooth, effective and self-sustained.

4.4.1 *Functions*

a) registers Quality Circles in the unit/division;

b) has liaison with the facilitators for ensuring regularity of Circle meetings, mid-term presentations, etc, and to analyze 'activity level charts'.

c) convenes Steering Committee meetings and circulate record notes thereof;

d) convenes monthly leaders' meetings and circulate record notes thereof;

e) organizes systematic documentation of Quality Circle case studies and publishes their compilation annually;

f) organizes top-management presentations in coordination with the facilitators;

g) gives assistance to Circles, whenever asked for;

h) conducts opinion surveys to assess intangible gains from time to time;

j) publishes newsletter on Quality Circle activities in local language;

k) prepares training material for facilitators and leaders in conjunction with training department;

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m) organizes training programmes for facilitators and leaders in collaboration with training department;

n) organizes lectures, seminars, conferences, exhibitions, etc, on Quality Circles;

p) publishes periodicals, pamphlets, etc, for the promotion of Quality Circles;

q) provides display boards of Quality Circles in the shops, areas where Quality Circles are functioning;

r) exposes all employees at the grass-roots and different levels of executives to the concept of Quality Circle through audio-visuals and lectures;

s) disseminates knowledge by circulating information and news on Quality Circles from journals/books;

t) developes schemes for the recognition of Quality Circles for the contributions made by them;

u) organizes presentations of Quality Circle case studies in sister units for mutual exchange of ideas; and

v) organizes conventions of Quality Circles.

4.5 Facilitator — The facilitator is usually a senior officer of the department where Quality Circles are working and is nominated by the management. He does not only guide the Quality Circle activities in his area, but also enthuses others to get involved in these activities. Because of the crucial role that the facilitator plays in making Quality Circles operation a success, his selection shall be done carefully.

4.5.1 *Functions*

a) attend Quality Circle meetings, at least for brief periods;

b) guide Circles in the proceedings of meetings,

c) coordinate with the training officer for organizing necessary training programmes in SQC techniques, QC working procedures, etc, for Quality Circle leaders and members;

d) provide necessary facilities and act as a catalyst for the Circle members;

e) coordinate and obtain the support and assistance from other functional areas wherever required by the Quality Circles;

f) act as intermediary in resolving Quality Circle problems;

g) work closely with the Streering Committee;

h) ensure that each Quality Circle keeps a record of its activities by way of maintaining registers, follows up for implementation of completed project;

j) arrange for periodical management presentations and to schedule meetings of Quality Circles;

k) communicate the Steering Committee decisions regarding the implementation of recommendations submitted by Quality Circles, searches for new ideas and publicises the programme;

m) collect and arrange dissemination of literatures relating to Quality Circle activities elsewhere;

n) arrange periodical get-together of Circle members with the top executives of the organization; and

p) strengthen and promote participative culture within the organization.

4.6 Leader — Leader is chosen by the members of a Quality Circle among themselves. Members may also themselves decide to have leader by rotation. The deputy leader may also be chosen by the Quality Circle so as to ensure that Circle meetings and other activities would go on uninterruptedly even if the leader is not present. Initially the supervisor may be a leader and another worker as deputy leader.

4.6.1 *Functions*

a) conduct Circle meetings regularly;

b) maintain registers regarding the proceedings of the Circle meetings, problem-selections, etc;

c) train the members with the assistance of the facilitator/co-ordinator;

d) maintain a high degree of cohesiveness of his team with a sense of identity;

e) involve every member in the Circle meetings/activities;

f) set Circle goals and improve performance towards the same;

g) chalk out action plans and delegate responsibility to Circle members;

h) bring about a consensus approach in problem solving;

j) prepare the project report and present to the departmental heads and Steering Committee;

k) appraise the progress of the work with the facilitator and the concerned departmental head;

m) interact with other functional areas in problem-solving;

n) review progress *vis-a-vis* goals and objectives set for themselves;

p) arrange for mid-term and top management presentations; and

q) catalyze non-members to join existing Circles or start new ones.

4.7 Members — Members are the basic element of the structure of Quality Circles. Members of Quality Circle are a small group of people from the same work-area or doing similar type of work, who voluntarily form a Quality Circle. Once a Circle is formed, they remain as permanent members of the Circle, unless they leave the work-area for good. The members should contribute actively to the effective functioning of their quality Circle, aiming at better performance of their work-area in every way on an on-going basis.

4.7.1 *Functions*

a) meet regularly (one hour in a week) and actively participate in Quality Circle meeting;

b) contribute ideas for problem solving;

c) assist the leader in data gathering, record-keeping, interacting with other areas,

d) catalyze generation of cohesive team working in the work-area,

e) strive for the highest standards of performance of the Circle,

f) involve in the improvement of the total performance of the organization, and

g) take part in the mid-term and top management presentations.

4.8 Non-members — Non-members are those who are not members of the Quality Circle but may be involved in the process of the implementation of the Circle recommendations. They are welcome, if they so desire, to form new Circles or join existing Circles. They should actively involve themselves in the implementation of the Circle recommendations.

5. TRAINING

5.1 The objective of training for Quality Circle activities is to prepare the concerned people for playing their roles effectively for the successful functioning of Quality circles. People are to be trained for their specific roles and hence emphasis need to be paid on the role of each involved in the Quality Circle function.

5.2 The success of the Circle activities depends on the training received by the concerned people in:

a) proper understanding of the concept and philosophy,

b) translating effectively the philosophy into practice,

c) proper application of simple statistical quality control techniques,

d) improving communication capability, and

e) developing leadership qualities and building up individuals.

5.3 Training is primarily given to facilitators and leaders who, in turn, will have to train Circle members. The training requirements for facilitator and leader are given in **5.3.1** and **5.3.2**.

5.3.1 For the facilitator, the stress is laid on:

a) reinforcing Circle leader's skills,

b) improving the Circle leader's performance,

c) catalyzing Circle activities,

d) strengthening and promoting participative culture,

e) using simple techniques in problem solving, and

f) identifying likely problems/pitfalls and guarding against them.

5.3.2 For the leader, the stress is laid on:

a) leadership role,

b) group techniques,

c) communication,

d) goals setting,

e) application of techniques, and

f) effective conduct of meetings.

5.4 Training Modules

5.4.1 *For Facilitator*

a) *Quality Circle* — its genesis, concept and philosophy;

b) role of facilitator, functions of leaders, members and steering committee;

c) quality control techniques used in Quality Circle activities; and

d) problems encountered by Quality Circles and their solutions.

5.4.2 *For Leader*

a) introduction of Quality Circles;

b) identification of problems — brain storming,

c) selection of the priorities — pareto analysis,

d) identification of the causes for the problems — cause and effect diagram,

e) collection and presentation of data,

f) identification of the solutions and selecting the best — brain storming and cost benefit analysis,

g) delegation of responsibility,

h) effective conduct of meetings,

j) record keeping and follow-up action,

k) review of progress against goals, and

m) management presentations.

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5.5 The most commonly techniques, such as brain storming, pareto diagram, cause and effect diagram used in Quality Circle activities are explained in **5.5.1** to **5.5.3**.

5.5.1 *Brain Storming* — Brain Storming is a group participation technique used by members of Quality Circles right from selection of a problem to identification of all possible causes of a problem. For effective brain storming, the following rules may be followed:

   a) no criticism of any ideas,

   b) encourage free-wheeling,

   c) equal opportunity to all members,

   d) all ideas should be recorded, and

   e) selection of the best idea after thorough scrutiny.

5.5.2 *Pareto Diagram* — Pareto Diagram is a decision-making tool, which helps in the identification of the 'vital few' from the 'trivial many' at a glance when incidents of various problems are plotted using vertical bar charts. A model of a Pareto diagram is given below:
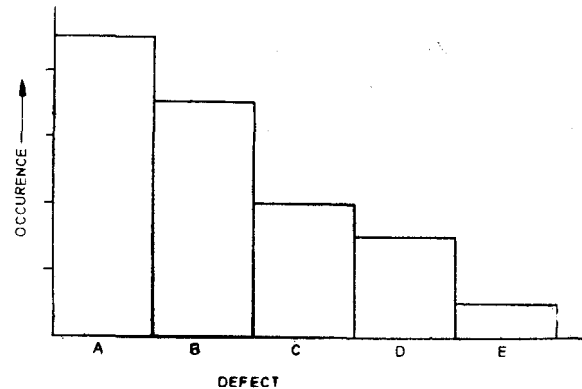
5.5.2.1 For further details, reference may be made to Indian Standard on Pareto diagram and cause-and-effect diagram (*under preparation*).

5.5.3 *Cause-and-Effect Diagram* — This is the next step after 'brain storming', in |analyzing a problem in detail. It is composed of lines and symbols, representing a meaningful relationship between an effect and its causes. A model cause-and-effect diagram is given below:
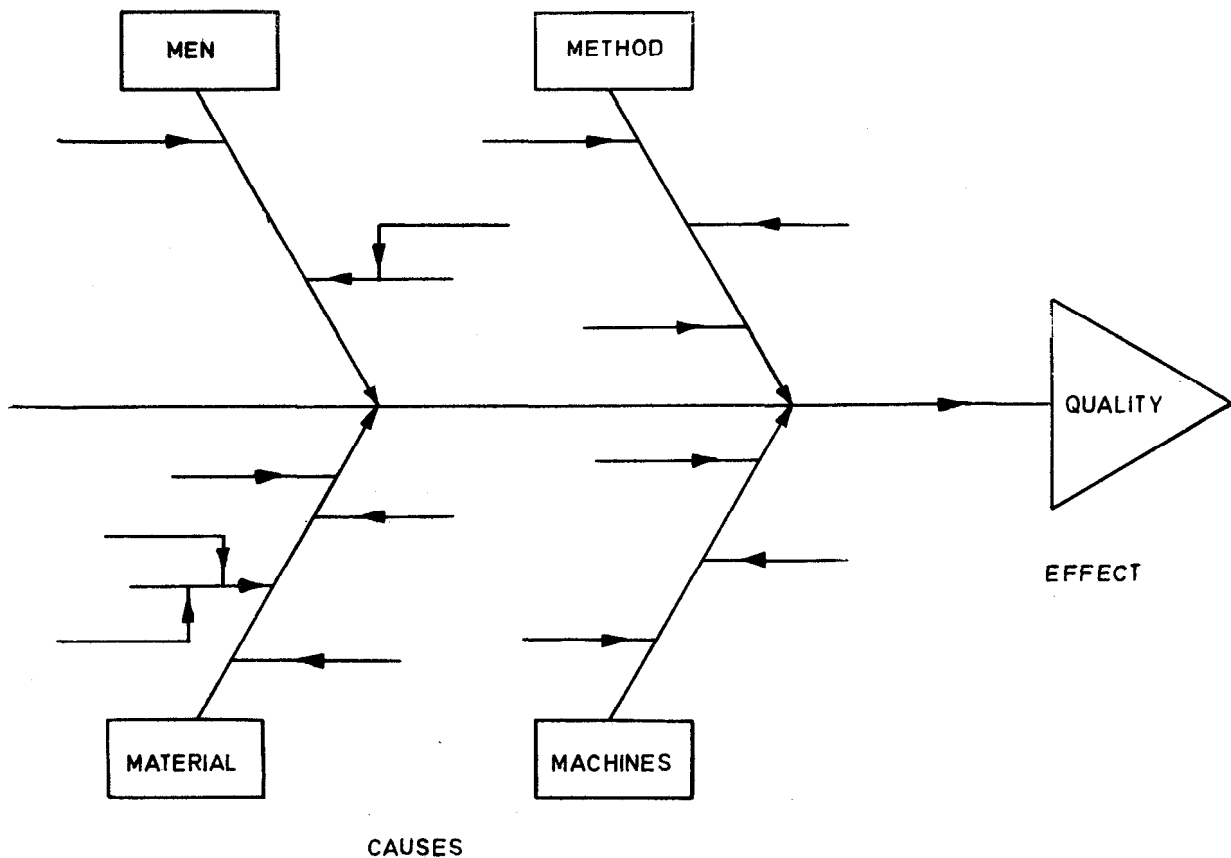
CAUSES

5.5.3.1 For further details, reference may be made to Indian Standard on Pareto diagram and Cause-and-Effect diagram (*under preparation*).

6. MANAGEMENT PRESENTATION

6.1 A management presentation is a meeting in which the leader and his Circle members explain the methodology and the solutions they have arrived at, to solve a problem in their work-area, to the Steering Committee. The participants make the presentation with the help of charts, graphs, etc, prepared by themselves. This event represents a most exciting form of participation/ communication and recognition to all.

6.2 The management presentation is important as it shows completed project and make recommendations. Management presentation also promote communication. The Circle gains recognition for its contributions. Morale of the members is boosted by the periodic opportunities to deal directly with the management.

7. LAUNCHING OF QUALITY CIRCLES

7.1 The management interested in introducing Quality Circles in its organization shall in the first instance commit itself to concept of Company-Wide Quality Control (CWQC) or Total Quality Control (TQC) involving development of management attitudes and practices oriented towards defect-free operation in the organization. The management shall take necessary steps to initiate massive training and orientation programmes starting with top management, to develop and adopt scientific quality systems and methods. These programmes should enable the management to look into and correct management controllable deficiencies. Subsequently and at an appropriate time, as may be decided by the management, the introduction of Quality Circles in the organization shall generally follow the sequence of steps given below:

a) detailed discussions among the top and middle management personnel;

b) training programmes for the different levels of employees on the concept and working methodology of Quality Circles and circulation of literature;

c) study the response during discussion with workers, staff and officers whether majority are favourable for launching Quality Circles;

d) once the response is positive, form a Steering Committee with chief executive as chairman and divisional managers as the members;

e) select the coordinator, who will also act as secretary of the Steering Committee;

f) train the coordinator in all aspects;

g) ask the coordinator to prepare a report on working methodology which is suitable to the organization;

j) identify the potential departments from which the members have given their willingness to start Quality Circle activities;

k) launch pilot Circles (2 or 3) in the potential departments;

m) train thoroughly the members of these pilot Circles in working methodology, roles of leaders, members and SQC techniques, etc;

n) closely follow the working of pilot Circles; and

p) after successful working of the pilot Circles for a reasonable period of 3-4 months, extented the concept to other departments.

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